

German Mineralogical Society

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SECTION MEETING 2023

Crystallography and Applied Mineralogy



2023 Crystallography / Applied Mineralogy section meeting – Group photo in front of Hotel Späth in Bad Windsheim, Germany.

The Crystallography and Applied Mineralogy sections of the German Mineralogical Society held their yearly joint workshop in Bad Windsheim, Bavaria, Germany, from 8 to 10 March 2023. A total of 24 participants discussed 20 presentations ranging from the development of novel catalysts for water electrolysis via the application of zeolites for removal of pharmaceuticals from waste waters to the role of mineralogy in the circular economy and nuclear waste disposal. Young scientists from universities, research institutions, and industry took this opportunity to discuss the latest developments in these emerging research fields with experienced researchers highlighting the role of mineralogy as a bridge between geosciences and materials sciences and engineering. Group discussions on the optimization of outreach activities to raise public awareness regarding the role of mineralogy in tackling these societal challenges stressed the importance of the professionalization of this field.

Daniel Vollprecht (Augsburg)

HIGH-PRESSURE SHORT COURSE AT BGI 2023

The short course "High-Pressure Experimental Techniques and Applications to the Earth's Interior" was held from 20 to 24 February 2023 at the Bayerisches Geoinstitut (BGI) in Bayreuth, Germany. A total of 23 students, either Master's students or PhD students, from all around the world participated.

Over the course of a week, we were introduced to a mixture of lectures as well as experimental and analytical techniques. During the first three days, we were able to gather hands-on experience in some of the impressively well-equipped high-pressure laboratory facilities. After receiving lectures on the theoretical backgrounds of various highpressure methodologies in the morning, we were split up into three smaller groups to work in the multi-anvil, piston cylinder, and rock deformation laboratories. Because of the small group sizes, we were able to conduct crucial parts of the experimental setups ourselves, including capsule welding, thermocouple preparation, and attachment and placement of the assembly into the high-pressure apparatuses, as well as starting the experiment. During the latter half of the week, we learned more about various analytical techniques and—what appears to be the queen of high-pressure techniques—the diamond anvil cell, again, both in the form of lectures and practical parts. Analytical techniques included transmission electron microscopy, spectroscopy, laser ablation ICP-MS, and scanning electron microscopy. Seeing this large scope of analytical techniques helped participants realize the possibilities as well as limitations that each one possesses and therefore what device is most useful for a certain enquiry.

The whole course successfully demonstrated the wide range of possibilities to further our understanding of the Earth's interior when employing various experimental setups. Generally, the atmosphere was very friendly and welcoming and it was especially beautiful to see the passion and excitement of the lecturers for their field of interest during the lectures and practical parts. What also makes a course such as this



2023 short course participants and BGI staff in the lobby of the BGI.

one so unique is the opportunity to meet other young researchers who work on related topics; this was also promoted by the social dinner at Oskar at the beginning of the week.

The authors of this report encourage all students with an interest in high-pressure experiments to attend this course in the future—even students with little to no background in this area; this course is very understandable.

We would like to thank the organizers and lecturers of this comprehensive and interesting course for taking us on a journey through the world of high-pressure experimental petrology.

Klara Heinrigs & Myriam Ruttmann (JGU Mainz)

DMG SHORT COURSES IN SUMMER 2023

DMG will support several short courses this summer. All courses will be aimed primarily at advanced-level undergraduate and graduate students but, as always, are open to more senior researchers as well. Nonlocal student DMG members will be eligible for travel support up to an amount of $100 \in$. Further information can be found at https://www.dmg-home.org/aktuelles/doktorandenkurse/.

(1) Data Science in Geo- and Cosmochemistry Goethe University Frankfurt am Main, Dominik Hezel

START ONLINE PART: 24 July 2023 | IN-PERSON PART: 2–4 August 2023 dominik.hezel@em.uni-frankfurt.de, www.uni-frankfurt.de/131213492

(2) Summer School: Advanced Methods for the Characterization of Applied Materials Max-Planck-Institut für Kohlenforschung Mülheim an der Ruhr, Hilke Petersen, and Claudia Weidenthaler, 25–27 September 2023

weidenthaler@mpi-muelheim.mpg.de, https://event.mpi-muelheim.mpg.de/summerschool2023

(3) In situ Analysis of Isotopes and Trace Elements by Femtosecond Laser Ablation ICP-MS Institute for Mineralogy, Leibniz University Hannover, Ingo Horn, Marina Lazarov, Martin Oeser, and Stefan Weyer, 25–29 September 2023

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